METHOD AND APPARATUS FOR AUTOMATIC ONLINE DETECTION AND CLASSIFICATION OF ANOMALOUS OBJECTS IN A DATA STREAM

ABSTRACT OF THE DISCLOSURE

The invention is concerned with a method for automatic online detection and classification of anomalous objects in a data stream, especially comprising datasets and/or signals, wherein a) the detection of at least one incoming data stream containing normal and anomalous objects, b) automatic construction of a geometric representation of normality the incoming objects of the data stream at a time t_1 subject to at least one predefined optimality condition, especially the construction of a hypersurface enclosing a finite number of normal objects, c) online adaptation of the geometric representation of normality in respect to received at least one received object at a time t_2, which is greater than t_1, the adaptation being subject to at least one predefined optimality condition, d) online determination of a normality classification for received objects at t_2 in respect to the geometric representation of normality, e) automatic classification of normal objects and anomalous objects based on the generated normality classification and generating a data set describing the anomalous data for further processing, especially a visual representation.